

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/078467 A1

(51) International Patent Classification⁷: G01R 33/025

Samu [FI/FI]; c/o Elekta Neuromag Oy, Elimäenkatu 22, FI-00510 Helsinki (FI).

(21) International Application Number:

PCT/FI2005/000090

(74) Agent: PAPULA OY; P.O. Box 981, (Fredrikinkatu 61 A), FI-00101 Helsinki (FI).

(22) International Filing Date: 11 February 2005 (11.02.2005)

(25) Filing Language:

Finnish

(26) Publication Language:

English

(30) Priority Data:

20040233

13 February 2004 (13.02.2004) FI

(71) Applicant (for all designated States except US): ELEKTA NEUROMAG OY [FI/FI]; Elimäenkatu 22, FI-00510 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

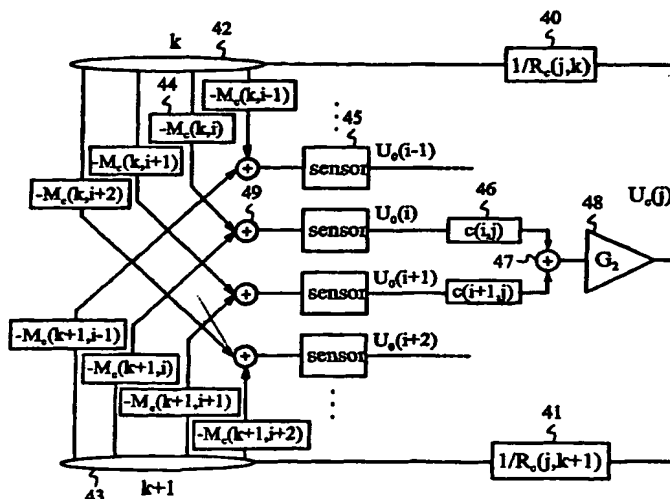
(72) Inventors; and

(75) Inventors/Applicants (for US only): KAJOLA, Matti [FI/FI]; c/o Elekta Neuromag Oy, Elimäenkatu 22, FI-00510 Helsinki (FI). PARKKONEN, Lauri [FI/FI]; c/o Elekta Neuromag Oy, Elimäenkatu 22, FI-00510 Helsinki (FI). SIMOLA, Juha [FI/FI]; c/o Elekta Neuromag Oy, Elimäenkatu 22, FI-00510 Helsinki (FI). TAULU,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: A METHOD FOR INTERFERENCE SUPPRESSION IN A MEASURING DEVICE



(57) Abstract: The present invention describes a method enabling one to shield a device that measures weak biomagnetic signals from strong magnetic interference fields. The measurement sensors are provided with a feedback compensation loop, the difference signal of which is obtained from the measurement sensors themselves. As the actuator of the feedback function, one or more coils are responsible for eliminating the external interference fields in the region of the sensors. Difference signals can be generated as a linear combination from the signals of two or more sensors. In the control logic, the SSS method can be used to numerically separate the biomagnetic signal being measured from the signals produced by the sources - compensation coils and interference sources - disposed outside the measurement region. The interference suppression can be enhanced by placing the assembly of sensors and the actuators within a magnetically shielding room.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.